



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,691	11/02/2007	Sachiko Miyagawa	920_098	2318
25191	7590	04/06/2011	EXAMINER	
BURR & BROWN			LAVARIAS, ARNEL C	
PO BOX 7068			ART UNIT	
SYRACUSE, NY 13261-7068			PAPER NUMBER	
			2872	
			MAIL DATE	
			DELIVERY MODE	
			04/06/2011	
			PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/594,691

Applicant(s)

MIYAGAWA ET AL.

Examiner

Arnel C. Lavarias

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-7 is/are pending in the application.
- 4a) Of the above claim(s) 2 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 5-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-940)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/16/11 has been entered.

Response to Amendment

2. The amendments to the abstract of the disclosure in the submission filed 3/16/11 are acknowledged and accepted. In view of these amendments, the objections to the specification in Section 10 of the Office Action dated 10/22/10 are respectfully withdrawn.
3. The amendments to Claim 1 in the submission filed 3/16/11 are acknowledged and accepted.
4. The cancellation of Claim 4 in the submission filed 3/16/11 is acknowledged and accepted.

Response to Arguments

5. The Applicants' arguments with respect to Claims 1, 3-7 have been considered but are moot in view of the new ground(s) of rejection.
6. Claims 1, 3, 5-7 are now rejected as follows.

Priority

7. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

8. Claim 6 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 6 is dependent on newly cancelled Claim 4. For purposes of examination, it is assumed that Claim 6 is dependent on Claim 1.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
11. Claims 1, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda et al. (WO 2004/000550 A1), of record, in view of Kobayashi et al. (U.S. Patent No. 6068794).

Fukuda et al. discloses an antireflection film (See for example Abstract; Page 18, lines 5-20) comprising a triacetylcellulose (TAC) transparent base material film (See for example Page 22, lines 12-22; Page 26, line 8-Page 29, line 12; See especially Page 27, lines 9-20 regarding the use of TAC as a substrate) and, provided on the transparent base material film in the following order, an antistatic hardcoat layer (See for example primer/hardcoat layer, Page 46, line 18-Page 50, line 16; Page 37, line 15-Page 38, line 4) comprising an antistatic agent (See for example primer and added conductive material in hardcoat layer, Page 37, lines 15-24; Page 50, lines 7-16) and an ionizing radiation curing resin (See for example Page 39, lines 9-18; Page 47, lines 1-6), the antistatic agent being selected from polymeric antistatic agents, such as a quaternary ammonium cation-containing structure, crosslinking group-containing low-molecular antistatic agents, and

electrically conductive antistatic agents (See for example Page 37, lines 15-24; Page 50, lines 7-16, wherein polymeric antistatic agents may include a quaternary ammonium cation-containing structure and electrically conductive antistatic agents may include metal oxide particles), the antistatic hardcoat layer having a micron-order thickness, such as between 1-5 microns (See for example Page 51, lines 9-22; Example 9A in Table 3, where the thickness of the antistatic hard coat layer may be 5 microns), and a low-refractive index layer (See for example Page 52, line 24-Page 53, line 12; Page 57, line 18-Page 58, line 22) having a lower refractive index than an underlying layer in direct contact with the low-refractive index layer, wherein an absolute value of a difference in refractive index between the transparent base material film and the antistatic hardcoat layer is not more than 0.03, whereby an occurrence of interference fringes is prevented (See for example Page 34, lines 12-22; Example 9A in Table 3, wherein for an antistatic hard coat layer thickness of 5 microns, no interference spots were observed). Fukuda et al. additionally discloses a composition of said antistatic hard coat layer contains the antistatic agent, the ionizing radiation curing resin, and a solvent (See for example Table 2 on Page 67, Substrates 9A and 9B; Pages 64-66, wherein cyclohexanone is used as a solvent. It is noted that cyclohexanone has been identified in the instant specification as one of many solvents having the 'penetrating' ability; See Paragraphs 0038-0042 of the instant specification) which can penetrate into the transparent base material film. Fukuda et al. lacks the solvent being an ester solvent. However, Kobayashi et al. teaches a known protective film for a polarizing plate (See for example Abstract). In particular, Kobayashi et al. teaches that the protective film includes a support, anti-static layer, and

hardened layer. The support layer may be made of TAC (See for example col. 4, lines 2-17). The anti-static layer may include a quaternary ammonium group (See for example col. 5, lines 8-14) and may be applied as a coating solution including a solvent, such as cyclohexanone or ethyl acetate (See for example col. 35, lines 29-40; It is noted that both cyclohexanone and ethyl acetate have been identified in the instant specification as two of many solvents having the 'penetrating' ability; See Paragraphs 0038-0042 of the instant specification). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the solvent used in Fukuda et al., be an ester solvent, such as ethyl acetate, as taught by Kobayashi et al., since cyclohexanone and ethyl acetate are similar functioning solvents for aiding in dissolving all of the solutes so that a coating solution can be created and later deposited onto the TAC film via known coating processes such as doctor coating, extrusion coating, slide coating, roll coating, gravure coating, wire bar coating, reverse-roll coating or curtain coating.

12. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda et al. in view of Kobayashi et al. as applied to Claims 1 and 7 above, and further in view of Matsufuji et al. (U.S. Patent Application Publication US 2004/0077752 A1), of record.

Fukuda et al. in view of Kobayashi et al. discloses the invention as set forth above in Claims 1 and 7, except for the polymeric antistatic agent being a molecule crosslinking group-containing compound. However, Matsufuji et al. teaches that antistatic layers may be formed in a film using either a conductive metal oxide or a conductive polymer. As examples of conductive polymers, Matsufuji et al. teaches that conductive polymers made of organic electron-conducting materials, such as polyaniline derivatives,

polythiophene derivatives, polypyrrole derivatives, and polyacetylene derivatives, may be utilized in the antistatic layers. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the polymeric antistatic agent be a molecule crosslinking group-containing compound, as taught by Matsufuji et al., in the antireflection film of Fukuda et al. in view of Kobayashi et al., to allow the antistatic layer to maintain high adhesiveness to the underlying layer while providing for appropriate conductivity for antistatic functionality.

13. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda et al. in view of Kobayashi et al. as applied to Claims 1 and 7 above, and further in view of Ono et al. (U.S. Patent Application Publication US 2003/0158309 A1), of record.

Fukuda et al. in view of Kobayashi et al. discloses the invention as set forth above in Claims 1 and 7, and further discloses that, when tested, the haze of the film be less than 50%, and preferably be less than 3% (See for example Page 28, lines 4-16). However, Fukuda et al. in view of Kobayashi et al. does not explicitly disclose a difference in haze between before and after the antireflection film is placed in an environment of temperature 80°C and humidity 90% for 500 hr is not more than 3. However, Ono et al. teaches a resin film composition (See for example Abstract) that is tested for resistance to moisture and heat. In particular, Ono et al. teaches that the resin film is tested in an environment of 65 degrees C and 85% humidity over a period of 500 hours, wherein the haze values before and after the test are determined and a difference in haze value is recorded (See for example Paragraph 0221; Tables 10-14). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have

a difference in haze between before and after the antireflection film is placed in an environment of temperature 65°C and humidity 85% for 500 hr is not more than 3, as taught by Ono et al., in the film of Fukuda et al. in view of Kobayashi et al., to assure that the film does not become cloudy or opaque after exposure to high heat or moisture. Though the combined teachings of Fukuda et al., Kobayashi et al., and Ono et al. do not explicitly disclose the test being performed at 80 degrees C and 90% humidity, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the test be performed at 80 degrees C and 90% humidity, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. One would have been motivated to have the test be performed at 80 degrees C and 90% humidity, so as to expose the film to more realistic conditions in which the film will be actually operating in, thus obtaining a better understanding of how the film will react in its environment. In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235.

14. Claim 6, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda et al. in view of Kobayashi et al. as applied to Claims 1 and 7 above, and further in view of Rose et al. (EP 0845489A2), of record.

Fukuda et al. in view of Kobayashi et al. discloses the invention as set forth above in Claims 1 and 7, except for the antistatic agent containing 1-70 mol% of a quarternary ammonium cation-containing salt. However, Rose et al. teaches a conventional antistatic material for use in plastics (See for example Abstract), wherein the antistatic material utilized in the composition includes a quarternary cation-containing salt in the amount of

0-30 mol% (See for example Abstract; Page 3; Equation I). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the antistatic agent in the antireflection film of Fukuda et al. in view of Kobayashi et al., contain 1-70 mol% of a quarternary ammonium cation-containing salt, as taught by Rose et al., to provide an antistatic layer that is long-lasting, scratch-proof, that exhibits good adhesion, and that provides adequate amount of electrical conduction appropriate for antistatic functionality.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 571-272-2315. The examiner can normally be reached on M-F 10:30 AM - 7:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Arnel C. Lavarias
Primary Examiner
Group Art Unit 2872
4/1/11

/Arnel C. Lavarias/
Primary Examiner, Art Unit 2872